

Title (en)

INORGANIC NANOPARTICLES OF HIGH DENSITY TO DESTROY CELLS IN-VIVO

Title (de)

ANORGANISCHE NANOPARTIKEL MIT HOHER DICHTE, UM IN-VIVO ZELLEN ZU ZERSTÖREN

Title (fr)

NANOParticules inorganiques de haute densité pour détruire des cellules in-vivo

Publication

**EP 2300054 B1 20160907 (EN)**

Application

**EP 09757595 A 20090604**

Priority

- EP 2009056880 W 20090604
- EP 08157686 A 20080605
- US 6020208 P 20080610
- EP 09757595 A 20090604

Abstract (en)

[origin: EP2130553A1] The present application relates to novel excitable particles which can be used in the health sector. It more particularly relates to particles which can generate electrons and/or high energy photon when excited by ionizing radiations such as X-Rays and/or electron, and to the uses thereof in health, in particular in human health. The inventive particles are made of an inorganic material comprising oxygen, said material having an adequate density, and can be activated in vitro, ex vivo, or in vivo, by controllable external excitation, in order to disturb, alter or destroy target cells, tissues or organs. The invention also relates to methods for the production of said particles, and to pharmaceutical or medical device compositions containing same.

IPC 8 full level

**B82Y 5/00** (2011.01); **A61K 41/00** (2006.01); **A61P 35/00** (2006.01)

CPC (source: EP KR US)

**A61K 9/14** (2013.01 - KR); **A61K 33/244** (2019.01 - KR); **A61K 41/0038** (2013.01 - EP KR US); **A61K 45/06** (2013.01 - KR);  
**A61P 35/00** (2018.01 - EP KR); **B82Y 5/00** (2013.01 - EP US); **Y10S 977/904** (2013.01 - EP US)

Citation (examination)

- JEAN-PIERRE JOLIVET: "Metal Oxide Chemistry and Synthesis", 1994, SAVOIRS ACTUELS INTER EDITIONS / CNRS
- DR P.C.H. MITCHELL: "Speciation of molybdenum compounds in water, Ultraviolet spectra and REACH read across, Report for the International Molybdenum Association, REACH Molybdenum Consortium", March 2009 (2009-03-01)
- TITENKO-HOLLAND N. ET AL.: "Studies on the Genotoxicity of Molybdenum Salts in Human Cells In Vitro and in Mice In Vivo", ENVIRONMENTAL AND MOLECULAR MUTAGENESIS, vol. 32, 1998, pages 251 - 259

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

DOCDB simple family (publication)

**EP 2130553 A1 20091209**; AU 2009254550 A1 20091210; AU 2009254550 B2 20131024; BR PI0913410 A2 20151124;  
BR PI0913410 B1 20210921; CA 2727576 A1 20091210; CA 2727576 C 20160816; CN 102056628 A 20110511; CN 102056628 B 20130710;  
CY 1118217 T1 20170628; CY 1121078 T1 20191211; DK 2300054 T3 20161205; DK 3150227 T3 20190114; EA 023012 B1 20160429;  
EA 201071429 A1 20110630; EP 2300054 A2 20110330; EP 2300054 B1 20160907; EP 3150227 A1 20170405; EP 3150227 B1 20181031;  
EP 3461502 A1 20190403; ES 2602048 T3 20170217; ES 2702249 T3 20190228; HR P20161465 T1 20170127; HR P20161465 T8 20170421;  
HR P20181993 T1 20190125; HU E030669 T2 20170529; HU E040247 T2 20190228; IL 209625 A0 20110228; IL 209625 A 20151130;  
JP 2011524866 A 20110908; JP 5734181 B2 20150617; KR 101639281 B1 20160713; KR 20110028616 A 20110321;  
LT 2300054 T 20161227; LT 3150227 T 20181210; MA 32453 B1 20110703; MX 2010013322 A 20110121; NZ 589888 A 20120629;  
PL 2300054 T3 20170428; PL 3150227 T3 20190531; PT 2300054 T 20161111; PT 3150227 T 20181224; SG 10201405288W A 20141030;  
SI 2300054 T1 20170228; SI 3150227 T1 20190228; TR 201819077 T4 20190121; US 2011213192 A1 20110901; US 8845507 B2 20140930;  
WO 2009147214 A2 20091210; WO 2009147214 A3 20100225; ZA 201100082 B 20111026

DOCDB simple family (application)

**EP 08157686 A 20080605**; AU 2009254550 A 20090604; BR PI0913410 A 20090604; CA 2727576 A 20090604; CN 200980121103 A 20090604;  
CY 161101109 T 20161101; CY 181101377 T 20181219; DK 09757595 T 20090604; DK 16187263 T 20090604; EA 201071429 A 20090604;  
EP 09757595 A 20090604; EP 16187263 A 20090604; EP 18203014 A 20090604; EP 2009056880 W 20090604; ES 09757595 T 20090604;  
ES 16187263 T 20090604; HR P20161465 T 20161107; HR P20181993 T 20181127; HU E09757595 A 20090604; HU E16187263 A 20090604;  
IL 20962510 A 20101129; JP 2011512129 A 20090604; KR 20117000259 A 20090604; LT 09757595 T 20090604; LT 16187263 T 20090604;  
MA 33490 A 20110104; MX 2010013322 A 20090604; NZ 58988809 A 20090604; PL 09757595 T 20090604; PL 16187263 T 20090604;  
PT 09757595 T 20090604; PT 16187263 T 20090604; SG 10201405288W A 20090604; SI 200931555 A 20090604; SI 200931905 T 20090604;  
TR 201819077 T 20090604; US 99416209 A 20090604; ZA 201100082 A 20110104